# National Institute for Health and Care Excellence

# Highly specialised technologies

**NICE prioritisation board routing criteria**

## 1 The vision

The Highly Specialised Technologies (HST) Programme evaluates technologies for [ultra-rare](https://www.nice.org.uk/process/pmg46/resources/nice-strategic-principles-a-complementary-approach-to-public-health-social-care-and-rare-disease-topics-13430355949/chapter/strategic-principles-for-rare-diseases) (previously referred to as very rare), and often very severe and debilitating, diseases that need the specific considerations by the programme. The vision for the HST programme was last consulted on in 2021. Specifically, it evaluates technologies that:

* meet the definition of a highly specialised technology, as described in legislation in [Schedule 4 of the NHS Commissioning Board and Clinical Commissioning Groups (Responsibilities and Standing Rules) Regulations 2012](https://www.legislation.gov.uk/uksi/2012/2996/schedule/4/made), or may potentially need nationally coordinated delivery approaches, and
* need consideration using the methods and processes of the HST Programme, as identified through the highly specialised technologies routing criteria.

NICE's standard technology appraisals methods and processes are designed to be flexible and adaptable for all technologies and conditions. So, they are suitable for most technologies that treat rare conditions and small populations.

The HST Programme is designed to be used in exceptional circumstances. Its purpose is to evaluate technologies for ultra-rare diseases that have:

* small numbers of patients
* limited or no treatment options
* challenges for research and difficulties with collecting evidence, because of the uniqueness of the disease.

The HST Programme aims to:

* encourage research on, and innovation for, ultra-rare conditions when there are challenges in generating an evidence base that is robust enough to bring the product to market
* secure fairer and more equitable treatment access for very small populations with ultra-rare diseases
* recognise that an approach that maximises health gain for the NHS may not always be acceptable: it could deliver results that are not equitable.

The HST Programme acknowledges that:

* It is important for NICE to apply appropriate constraints to the ultra-rare populations that can potentially be routed to the programme. This is because the HST Programme is a deliberate departure from the standard technology appraisal process (valuing the benefits from these technologies more highly by having a much higher incremental cost-effectiveness ratio [ICER] threshold) for the reasons outlined above.
* Each time NICE routes a topic to the HST Programme it is deciding that, if the technology is recommended, the NHS must commit to allocate resources that would have otherwise been used on activities that would be expected to generate greater health benefits.
* NICE has sought to strike a balance between the desirability of supporting access to treatments for ultra-rare diseases against the inevitable reduction in overall health gain across the NHS that this will cause. Both considerations are valid and important, and neither can be given absolute priority over the other. Therefore, the HST Programme criteria and their anticipated application intentionally do not seek to capture every case where there are challenges in generating an evidence base or when there is a small population with a rare disease.
* This approach ensures that technologies routed to the HST Programme fulfil the vision of the programme and manages the displacement in the wider NHS. How the context of the HST vision is linked to the HST criteria is illustrated in (figure 1).

However, it can be challenging to identify the exceptional circumstances when the highly specialised technologies methods and processes should be used because of difficulty in obtaining the information needed at the point of a routing decision. Proxy information is often relied on and used to make judgements. The routing criteria identify which technologies should be routed for highly specialised technologies guidance. These criteria help make judgements as informed, justifiable, consistent, predictable and transparent as possible. NICE's capacity to develop highly specialised technologies guidance can react to need and there is no limit on the number of technologies that can be routed.

For the purpose of this refinement work, please see (supplementary material).

### Figure 1: Summary of the vision of the HST programme

## 2 Proposed refinements to the HST routing criteria

Technologies will be considered eligible for routing to highly specialised technologies guidance if the NICE prioritisation board agrees that all 4 routing criteria have been met (see section 3). Each criterion has a set of definitions that help to explain how it will be assessed. The criteria should not be assessed in insolation. The NICE prioritisation board will always consider all the definitions when assessing each routing criterion.

### 2.1 The disease is ultra-rare and debilitating

**Description of the HST vision**

The rarer a disease is, the more challenging it is to conduct research and generate an evidence base that is robust enough to bring an effective technology to market. The HST vision aims to encourage research where it is most challenging.

Not all ultra-rare diseases are debilitating. Therefore, the vision focuses on the ultra-rare diseases with debilitating symptoms that are ongoing and have an exceptional burden on patients (and the NHS) to justify prioritising access to treatments over overall population health.

### Routing criterion 1: The disease is ultra-rare and debilitating, that is, it:

### is defined as having a point prevalence of 1:50,000 or less in England ([NICE strategic principles for rare disease](https://www.nice.org.uk/process/pmg46/resources/nice-strategic-principles-a-complementary-approach-to-public-health-social-care-and-rare-disease-topics-13430355949/chapter/strategic-principles-for-rare-diseases))

### is lifelong after diagnosis with current treatment, and

### has an exceptional negative impact and burden on people with the disease.

#### Definitions

The definitions below have been developed to help define what is an ultra-rare disease, and to help define the debilitating nature of the disease. Relevant information should be collected by NICE (from the company and other research or academic sources) to explain how each definition is considered by NICE prioritisation board.

1. The first 2 bullet points of routing criterion 1 are about the ‘disease’, not about the symptoms associated with the disease (regardless of whether the symptom or set of symptoms are the dominating feature or not).
2. ‘Disease’ refers to a condition for which a diagnosis can be made based on the International Classification of Diseases (ICD-10 or ICD-11) developed by the World Health Organization (WHO). Diagnosis is based on a unique set of signs and symptoms (characteristics) identified using:
* clinical examination,
* patient history,
* imaging or laboratory tests that are, or can be made, available in the NHS in England.

‘Disease’ does not refer to subgroups based on age, sex, severity or genetic subtype when these are not clinically meaningful (that is, associated with a unique and clinically distinct phenotype, prognosis or treatment options).

1. ‘Point prevalence’ refers to the point prevalence of the ‘disease’ in England. It counts the number of people with a diagnosis of the disease thought to be alive in England on a given index date compared with the total population of England at that time ([NHS England](https://digital.nhs.uk/ndrs/data/data-outputs/rare-disease-and-condition-prevalence#methodological-review)).
2. ‘Lifelong’ indicates that the disease the people currently have:
* needs ongoing clinical management, supportive care or both, and
* is not relapsing-remitting, with periods when a person is free of symptoms and disease burden.
1. ‘Exceptional negative impact’ refers to shortened length of life or severely impaired quality of life. The precise assessment of what these are needs an element of subjective judgement.

### 2.2 We aim to encourage innovation and research

**Description of the HST vision**

This criterion is designed to uphold the HST vision to encourage innovation and research into ultra-rare and debilitating diseases that have poor service provision within the NHS (for example, delay in diagnosis, no treatment options beyond supportive care). Without these incentives from the HST programme, the technology may not be available for patients either post launch or during development/testing of the technology in England and Wales. The availability of the innovation can also reshape NHS services and advance awareness.

**Routing criterion 2: The technology is an innovation for the ultra-rare disease.**

#### Definitions

The 2 definitions below are developed to help define what is an innovative technology. Relevant information about the technology should be collected by NICE from relevant sources, for example, the MHRA, ongoing trials registries and others, to explain how each definition is considered.

1. ‘Innovation’ refers to a technology or medicine such as an advanced therapy medicinal product (ATMP) or new chemical or biological entity or novel drug device combination that brings additional health gains to people with the disease (compared with the existing treatment or best supportive care).
2. To ensure the technology is an innovation for the ultra-rare disease, the technology should, i) not be a repurposed technology, ii) the indication for the technology should not be a significant extension of an indication from another population or disease, and iii) the technology should not currently be being explored in clinical trials for other indications.
3. A repurposed technology means new uses for medicines that are outside of the scope of the existing licence for the medicine. This typically involves taking an existing medicine that already has a marketing authorisation or licence for human use for a particular condition, and then using it to treat another condition ([NHSE](https://www.england.nhs.uk/medicines-2/medicines-repurposing-programme/)).

### 2.3 The technology should be limited to the population in its licensed indication

**Description of the HST vision**

This criterion attempts to establish the acceptability of the technology as an effective use of NHS resources due to the significantly higher incremental cost-effectiveness ratio (ICER) per quality-adjusted life year (QALY). Therefore, the eligible population needs to be small in order to strike a balance between the desirability of supporting access to treatments for ultra-rare diseases against the inevitable reduction in overall health gain across the NHS this will cause due to a higher ICER threshold. A small sub-population within a ‘common disease’ would not be suitable for the HST programme.

**Routing criterion 3: No more than 300 people in England are eligible for the technology in its licensed indication and the technology is not an individualised medicine.**

#### Definitions

The definitions below are developed to help define what kind of licensed indication is suitable to be considered routing to the HST programme, and to help explain what is an individualised medicine. Relevant information about the licensed indication of the technology should be collected by NICE to explain how each definition is considered.

1. ‘Eligible’ refers to everyone who could have the technology under its marketing authorisation (obtained or in the process of obtaining) in England.
2. To promote innovation, the ‘technology’ should only be developed for the ultra-rare disease and therefore the eligible population is small. The technology:
* has to be the first treatment for the 'licensed indication' under consideration.
* should not be for an extension of an existing indication from another population or disease, or for a subgroup of people with the ultra-rare disease.
* is unlikely to be suitable for other subgroups of the population with the ultra-rare disease in the future that is outside of its first indication, or other populations with other diseases.
* is not a repurposed technology.
1. ‘Individualised medicine’ refers to a medicine that is developed based on a person’s unique genetic profile (n of 1), or on the genetic profile of monozygotic twins or triplets.

### 2.4 There are no effective treatment options

**Description of the HST vision**

This criterion attempts to address the lack of effective treatment and access to NHS services for some ultra-rare diseases. To justify prioritising treatment access for ultra rare diseases over overall population health, the technology indicated should provide substantial health benefits to the patients over the existing clinical management and supportive care.

**Routing criterion 4: The technology is likely to offer substantial additional benefit for people over existing established clinical management, and the existing established clinical management is considered inadequate.**

#### Definitions

The 2 definitions below are developed to help define what is substantial additional benefit, and to help to explain the meaning of no effective treatment options. Relevant information should be collected by NICE to explain how each definition is considered.

1. ‘Substantial additional benefit’ means that the technology demonstrably extends the reduced length of life, or demonstrably improves the severely impaired quality of life attributable to the disease, as exemplified by research data on relevant patient reported outcome measures (PROMs).
2. ‘The technology’ means,
* if the technology is a disease-modifying treatment (including curative treatment), there is no other disease-modifying treatment available in the NHS in England and Wales for the same ultra-rare disease at the time of routing decision, or
* if the technology treats a symptom or set of symptoms unique to the ultra-rare disease, there is no other treatment available in the NHS in England and Wales for the same symptom for which the technology is indicated at the time of routing decision.

For comparisons of the existing HST routing criteria with the proposed refined criteria, please see (supplementary material).

## Routing deliberation and decision

To ensure transparency and consistency of routing decisions, a HST routing assessment checklist (see supplementary material) will be used to collate all relevant information by the NICE technical team. This information will be presented by the NICE technical team to the [NICE prioritisation board](https://www.nice.org.uk/about/what-we-do/prioritising-our-guidance-topics) for discussion and deliberation. At the end of the discussion and deliberation, the NICE prioritisation board members will vote on each routing criterion as ‘met’ or ‘not met’. All 4 routing criteria need to be voted by the NICE prioritisation board as ‘met’ (that is with a majority vote of being met) in order for the technology to be routed to the HST programme. If the NICE prioritisation board thinks more information is required for them to discuss and deliberate, the decision will be deferred until more information is acquired. Rationales for the routing decisions will be captured in the HST routing assessment checklist. If there are split votes (50% vs 50%) for any individual criterion, the NICE prioritisation board chair will exercise the deciding final vote.

All HST routing decisions will be available on the NICE [prioritisation board webpage](https://www.nice.org.uk/about/what-we-do/prioritising-our-guidance-topics/our-prioritisation-decisions), together with the rationales for the decisions supplemented by the completed HST routing assessment checklist, and timeframe to participate in the clarification process.

## HST routing decision clarification process

The aim of the clarification process is to explain NICE's reason for its HST routing decision(s) that are queried by the industry or stakeholders. For more details on clarification process, please see [section12](https://www.nice.org.uk/process/pmg46/chapter/nice-wide-topic-prioritisation-clarification-process) of the NICE-wide topic prioritisation: the manual (PMG46).